WESTERN

Trees, Parks & Forests

Street Planting of Stone Pines in Santa Barbara

NATIONAL SHADE TREE CONFERENCE AT ST LOUIS

- **What About California's Pines**—*by C. S. Martin*

PRUNING OF ORNAMENTALS—*by L. C. Chadwick*

June, 1938 A Quarterly Review 25 Cents

In the Center of Downtown

LOS ANGELES

FOURTH AND SPRING STS. DOWNTOWN

A marvelous location, right in the center of activities—a quiet, comfortable hotel home... With spacious outside rooms, superior service, congenial atmosphere.

200 ROOMS

From $1.25

From $2.00 With Private Bath

ANGELUS DE ANZA *Hotel*

Trees *for all purposes*

Here at Del Amo Nurseries you will find large blocks of shade and ornamental trees of all kinds, both field grown and in containers.

« « » »

Before buying trees in quantity, look over our stock of Conifers, Eucalyptus, Acacias and all types of broad leaf evergreens, as well as the more popular deciduous trees.

« « » »

For special plantings we are equipped to grow trees on a contract basis. Tell us your requirements.

« « » »

1938 descriptive Price List now ready.

DEL AMO NURSERIES

P. O. Box 389, Compton, California

3 Mi. So. of Compton on Alameda

Los Angeles Phone Kimball 3597 **Compton Phone 1241**

The American Forestry Series

WALTER MULFORD, Consulting Editor

Harlow and Harrar's

TEXTBOOK of DENDROLOGY

Covers the important forest trees of the United States and Canada with emphasis on identification, tree habits, silvical data and tree ranges. **Just published...$4.50**

Doane, Van Duke, Chamberlin and Burke's

FOREST INSECTS

Describes the various orders of insects that are injurious to forests and forest products; and the principal methods of control recommended for each order, **$4.50**

Brown and Panshin's

IDENTIFICATION of the COMMERCIAL TIMBERS of the U. S.

Makes possible identification by (1) characters visible with the naked eye and the hand lens; and (2) by minute characters **$3.00**

Baker's

THEORY and PRACTICE of SILVICULTURE

Helps to answer the question: "If I treat my forest thus-and-so, what will happen to it?" Covers plant physiology, ecology, European experience and American developments **$5.00**

Bruce and Schumacher's

FOREST MENSURATION

Provides a new approach to forest mensuration based on a classification of the technique required rather than of the subject to be studied.....**$3.50**

Matthews'

MANAGEMENT of AMERICAN FORESTS

Deals with the practical problems of management of forest property both from the technical and financial standpoint...**$5.00**

Koehler's

PROPERTIES and USES of WOOD

$3.50

The MANUFACTURE of PULP and PAPER

Vol. III—Preparation and Treatment of Wood Pulp **$6.50**

Order from

WESTERN

TREES, PARKS & FORESTS

129 SANTA MONICA BLVD.

Santa Monica, Calif.

Along The Way

■ PIERRE MILLER of U. C. L. A., working on the newly set up assignment of ornamental pathology, reports a new tree affliction—alcoholism. Seems as though imbibers at Santa Anita race track hearing the starting bell douse the unfinished contents in tubs containing ornamental trees. The trees, at last report, were still standing at the bar, but they don't look so good. PIERRE is attempting to determine whether it is the gin or Scotch that has the worst effect.

■ You can't tell a book by its cover, nor a pantry by the size of its door, nor can you tell how much pie (or any other food) RUSS IRELAND of the Los Angeles County Forestry Department can eat. At the recent San Berdoo S. A. F. meeting he complained of being hungry after eating almost a side of beef, so JOE DAVIS and yours truly donated big hunks of apple pie, making him three pieces. He did it!

■ Well, it just seems that the raspberries were bound to catch up with me so a big bag of PINION NUTS for two regrettable errors. HAMMOND SADLER has only one Dee—and CLAUDE MARTIN is not CLAUDE—he is CLYDE S.

■ Had a nice visit with WALKER TILLEY of the Western Pine Association recently in 'Frisco—oh! I beg pardon—SAN FRANCISCO. Anyway, WALKER, I am looking forward to a possible trip in the big trees with you.

■ Now here is a good one. AL PETERSEN is not a galloping SWEDE because SWEDES don't spell PETERSEN with all those ees. So therefore, he's a DANE, but you can't call him a great DANE, he hasn't enough hair.

■ Was very pleasantly surprised upon my return from the SHADE TREE CONFERENCE to find two packages from Honolulu sent by RALPH CORNELL. RALPH had been in the Islands doing some of his distinctive work on the University of Hawaii grounds. One package contained a fruit of the African Sausage tree (*Kigelia Africana*). This unusual fruit is about 18 inches long, 6 inches in diameter and weighs around 15 pounds. The tree is of the *Bignoniaceae*, has large chocolate colored flowers which open at 5 o'clock in the evening and fall the following morning; it will do in Southern California, so the seed from my specimen will be distributed to anyone who wants several. Drop a card. The second package contained a dozen jars of Hawaiian jam. Try and get samples of that!

■ PHIL RAY of the Oakland Convention Bureau certainly has an eye for beauty. I think we will make a real Arborist of him at the next SHADE TREE CONFERENCE in Oakland. He couldn't get over the fact that the men at the Sacramento meeting came there to learn from the papers presented. He'll do.

■ RAY HARTMAN, ever pleasant president and general factotum of the LEONARD COATES NURSERY showed me through his splendid plant in San Jose and at the same time presented to my private "Arboretum" collection the following: 1 *Pin Oak* and 1 *Liquidambar*.

This growing collection was also augmented by gifts from CHARLEY HAENGGI of a *M. Soulangeana, Q. Macrocarpa*, a *Liquidambar*, a *Q. Lobata* and two *Seville* oranges. DANA BOWERS gave four *Jacarandas* and two *Eucalyptus Sideroxylon Rosea*.

This is going to be a fine grove some day, I hope, with the already established trees from THEODORE PAYNE, an *Acacia Penpula;* HUGH EVANS, *Eucalyptus Caesia;* EDGAR M. SANBORN, *Sequoia Gigantea*.

■ OTTO BAYER'S city of Long Beach tendered a very beautiful invitation to the SHADE TREE CONFERENCE to come to that city in 1940. If they treat everyone like they did the Park Administrators in March it certainly is worth thinking about. We learned then that the city has a bunch of new oil wells on their hands. Why not turn over a couple to the PARK DEPARTMENT so they can enlarge the fine job they are doing?

■ It certainly was a pleasure to see the many black locusts in bloom around Sacramento. It is really a lovely tree.

A park in El Paso de Robles was covered with them, with about four of the pink flowering variety (*Decaisnea*). Their fragrance and color give a charm that should be used much more.

■ The M. D. FARIA ranch just south of Ventura on 101 is a credit to J. R. BUTLER, the superintendent. The house is buried with color—Paul's scarlet climbing roses, geraniums, and, along the highway, what would otherwise be an ugly weed-covered bank, is a shower of colorful petunias. All simple plants, but they transform this place into a fairyland of delightful gayety. Orchids to you!

■ CHARLIE ADAMS is having a fine time on his Eastern lecture tour. He has nineteen scheduled talks according to his right hand man, OTTO GURKE. That "no loitering" sign of OTTO's which he surreptitiously hoists into place after one has been in the office about ten minutes probably kept him up nights to concoct. Very unsporting—like his cigars.

■ Had an altogether too short visit with KARL DRESSEL at the SHADE TREE CONFERENCE. KARL is professor of forestry at Michigan State College, also president of the NATIONAL SHADE TREE CONFERENCE.

■ I live way, way up among the crags of the Santa Monica Mountains. So imagine my very pleasant surprise on a recent Sunday to hear a knock and upon answering I found a real good-looking chap who turned out to be A. ROBERT THOMPSON, Forester of the National Park Service, out here from Washington to look over God's country.

■ FRANK HERBERT goes to SHELL . . . that is, the SHELL OIL COMPANY has taken over the BALFOUR, GUTHRIE COMPANY insecticide department. We regret the passing of a fine organization from our field and welcome the new.

■ The cover photo is by GEO. K. FREEMAN. The sage of Santa Barbara has become quite a photographer in addition to passing out good cigars.

■ HARVEY ANDERSON is a proud papa for the third time. Congratulations! . . . those are good cigars!

AVAILABLE

for showings in California

GOING PLACES WITH TREES

A 1000-ft. motion picture, in color

MUNICIPALITIES and horticultural groups have been unanimous in their praise of this remarkable film which portrays the moving of trees, tree surgery and insect control.

It is available for showings, upon request, to Peck & Wadsworth.

This fascinating production has been shown at

Western Shade Tree Conference, 1938; San Bernardino Park Department Extension School; Citrus Experiment Station, Riverside (Synapsis Club); U. C. L. A. Ag. Club; Southern California Horticultural Institute; Association of Park Superintendents' April meeting; Western Entomological Society, and other interested groups.

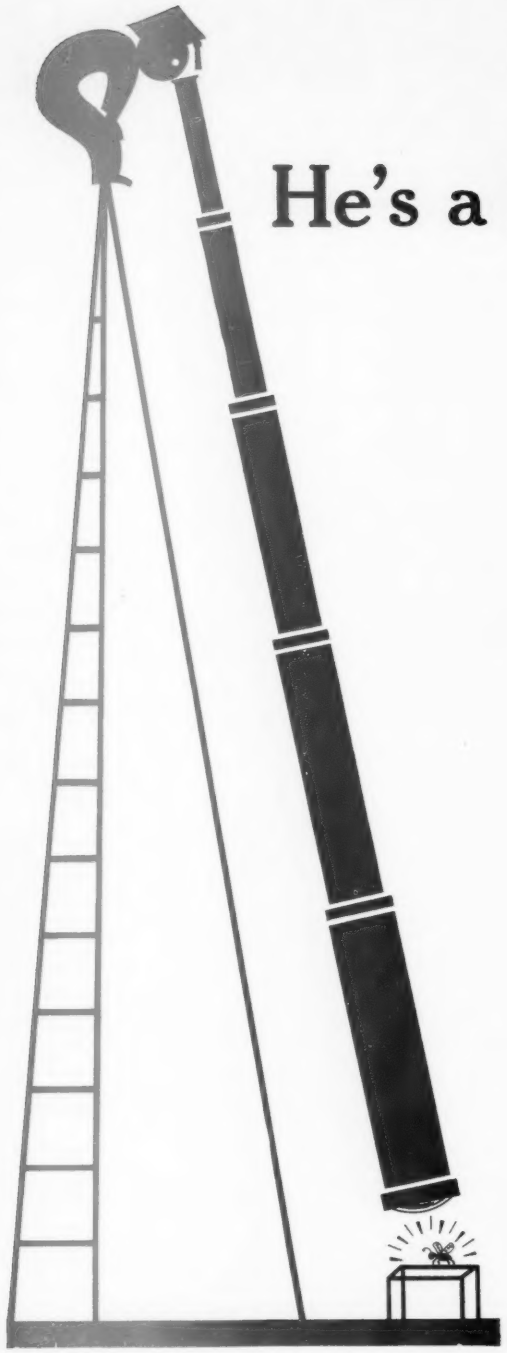
PECK & WADSWORTH

8451 West Third Street

LOS ANGELES

Telephones:
CR. 12828; BRadshaw 21148

★ ★



He's a Friend of Yours

ORTHO
SCIENTIFIC PEST CONTROL

We mean the man, not the bug. The man represents the far-flung corps of ORTHO Scientific workers, friends of yours whether you know them or not.

They are friends of yours because they enable you to *fight pests with knowledge*.

Steadily, untiringly, these men carry on in field and laboratory, searching out new and better ways of controlling pests, new and better materials with which to wage the fight.

ORTHO Shade Tree Program

Cooperating closely with horticultural authorities, we have developed the ORTHO Shade Tree Pest Control Program, which provides simple, efficient, and highly satisfactory program for most common pests.

The program includes:

ARBOROL Shade Tree Spray, a contact Insecticide-Spray carrier for control of Scale, Mealybugs, Red Spiders, and eggs of certain insects.

Add BOTANO-R Spray for control of many other insects including certain sucking insects and leaf-eaters not controlled by "ARBOROL" alone.

Add COPOSIL Fungicide for control of many fungous diseases including Sycamore Blight, Peach Leaf Curl, and certain Downy Mildews and Leaf Spots.

For Ant Control (and ant control helps in control of other pests) use DEADLINE Insect Barrier, a sticky banding material that stays sticky.

Fight Pests With Knowledge

Regardless of the spray you buy . . . "ARBOROL" or any other needed material . . . if it bears the ORTHO label it has been produced under exacting scientific control and is serviced by experienced scientific men in the field. Fight pests with knowledge by using ORTHO Scientific Pest Control.

WRITE FOR INFORMATION

California Spray-Chemical Corporation

"ORTHO" Technical Field Service Available At All Offices

RICHMOND - FRESNO - LINDSAY - SACRAMENTO - SAN JOSE - WATSONVILLE - WHITTIER - ANAHEIM - ORANGE
CHULA VISTA - POMONA - REDLANDS - YAKIMA AND WENATCHEE, WASH. - WEISER, IDAHO - ELIZABETH, NEW JERSEY

WESTERN

Trees, Parks & Forests

June, 1938 | A Quarterly Journal | Volume 1—No. 3

EDITOR
Edward H. Scanlon

ADVISORY EDITORIAL COUNCIL
Dr. Leroy Abrams
Director, Natural History Museum, Stanford University

Millard F. Blair
Arborist, Palo Alto, Calif.

H. Dana Bowers
State Landscape Engineer Sacramento, Calif.

Dr. H. E. Burke
Entomologist, U.S.D.A. (retired) Palo Alto, Calif.

L. C. Chadwick
Assoc. Professor of Horticulture Ohio State University, Columbus, O.

Ralph D. Cornell
Landscape Architect, Los Angeles, Calif.

George T. Dalton
City Arboriculturist, Seattle, Washington

Frank Dunne
County Forester, Santa Barbara, Calif.

Fred N. Evans
Supt. of Parks, Sacramento, Calif.

Hugh Evans
Nurseryman, Santa Monica, Calif.

J. W. Ferguson
State Forester, Salem, Ore.

Emanuel Fritz
Associate Professor of Forestry University of California, Berkeley, Calif.

L. Glenn Hall
U. S. Forest Service, San Francisco, Calif.

Frank Herbert
Entomologist, San Jose, Calif.

M. B. Pratt
State Forester, Sacramento, Calif.

Gilbert L. Skutt
Supt. of Parks, Los Angeles, Calif.

A. Robert Thompson
Forester, National Park Service Washington, D. C.

Spence D. Turner
County Forester, Los Angeles, Calif.

OUR PLATFORM

1—State Arboreta.
2—Forest conservation and development.
3—Establishment and maintenance of Parks.
4—More playground and recreation areas.
5—Wholehearted support of the Western and National Shade Tree Conferences.
6—Drastic enforcement of the wild flower and native plant laws.
7—Enthusiastic cooperation with the California Association of Park Administrators.
8—Correct planting and care of shade and ornamental trees.
9—Civic and state beautification.

Today and Tomorrow

NEW BOARD MEMBER

We are pleased to add to our Editorial Board Mr. A. Robert Thompson, Forester of the National Park Service, Washington, D. C.

Mr. Thompson is one of this country's outstanding arborists. His work as chairman of the Lightning Struck Tree Survey Committee for the National Shade Tree Conference has been very comprehensive and productive of much new data in this important phase of tree preservation. The bulletin series written by Mr. Thompson on such subjects as cabling, bracing, safety, pruning, spraying, etc., can be placed among the finest works on these subjects and should be read by every arborist.

I had the pleasure to spend two enjoyable days with Mr. Thompson recently showing him many of our Western trees, native and exotic; also some examples of tree preservation practice.

One of the highlights of our pilgrimage was a trip with Fred Roewekamp, of the Los Angeles Park Department, to one of the most magnificent groves of trees it has ever been my privilege to admire. It was a grove of live oaks (*Quercus agrifolia*) at Sunland, in the mountainous area of Eastern Los Angeles. Towering sixty feet or more, dense, with long spreading limbs that bowed to the ground, these trees had us gaping and exclaiming in the sheer pleasure of their majesty.

Here, too, was unfolded a tragedy. The entire area is a picnic ground and several years ago the problem of soil compaction became acute. The trees were being trampled to death. When Gilbert Skutt became Superintendent of Parks one of his first acts was to order the isolation of a section of the park which contained the most magnificent specimens. A fence was immediately erected around these eight or ten trees and the job of rehabilitation began. The ground was thoroughly dug up to about a spade's depth. This has been done twice. The result is almost unbelievable. The foliage on these trees has resumed its natural deep, lovely color, the amount of foliage has increased approximately 75 per cent and the size of the leaves about 50 per cent. The value of aeration was never more visibly demonstrated.

I hope the day is not too distant when some noble soul will

make available another picnic area so that these splendid oaks can all be treated to a copious amount of life giving air and isolated, except for walks where one can wander reverently through the naves of this grand cathedral.

I sort of lost Mr. Thompson for a while, but I know he would not mind being lost among those Sunland giants.

PLANT FLOWERING TREES

California is doubly blessed with a magnificent array of flowering trees, but how seldom they are used! Other sections of the country are just as lax—why, is difficult to explain or understand.

Mr. A. Robert Thompson, on his recent visit here, was amazed at the offering of flowering trees and the multitude of color plants available to Southern California—also disappointed not to see street after street lined with such trees as Jacaranda (*J. mimosaefolia*), Cape Chestnut (*Calodendrum capensis*), the numerous Erythrina, particularly the gorgeous winter blooming *E. caffra;* in the coastal regions the summer blooming New Zealand Christmas tree (*Metrosideros tomentosa*) which so much resembles our too little planted live oak (*Q. agrifolia*); the beautiful Crepe myrtle (*Lagerstroemia indica*); the beautiful Orchid trees (*Bauhinia alba, purpurea and candicans*); for its lovely foliage the Punk tree (*Melaleuca leucadendron*); the yellow flowered Tipu tree (*Tipuana speciosa*); the weeping Acacia (*A. pendula*) and so on ad infinitum. Some day maybe—very soon, we hope.

There is one of the above trees that I positively cannot imagine why it has not been used. It is the Coral tree (*Erythrina caffra*). True, it is touchy as to low temperatures, wants a light, deep soil, has a pithy wood structure—but what breathtaking, gorgeous color! Blooms in winter after the foliage has dropped, a flaming riot of red all through the winter when so few other things are in bloom. Some one of these days a Chamber of Commerce official will see one of these grand trees and then look out! A street or streets, you couldn't have too many, of Corals would soon make any coast city "the place to go." They are moderately long-lived. I know of four large size specimens about twenty-five years old that show no signs of breakdown. One of these trees is located in Hollywood on the corner of Serrano and Franklin; two are on the grounds of the Huntington Botanic Garden and the other is in Santa Monica.

Wake up, some one of you city park men, and plant this most beautiful of trees. There may be objections, but its beauty far outweighs them all.

FOREST FIRES AGAIN

"Now is the time for all good men to come to the aid of our forests" . . . help prevent forest fires. The 1937 Forest Fire Summary of California's State Forester, M. B. Pratt, gives the following startling statistics: smokers and camp fires caused 1232 out of a total of 2907 fires reported. Certainly this indicates gross carelessness on the part of people who use the forest for their recreation and vacations, and when this huge figure is compared with the surprisingly low figure of 14 fires caused from lumbering operations where one has been led to expect more, the total is astounding.

Many hundreds of thousands of dollars have been expended in forest areas to make it pleasant for the camper; a fire can wipe out a huge investment and require another development in another area . . . because, let a fire devastate once and that area can be forgotten for at least one or two generations before it has any value again whatsoever. Be careful with your smokes, matches and fires . . . you may make it necessary to travel an extra hundred miles to spend your next vacation.

STREET TREE PLANTING DISTANCES

I have just finished a book on trees written by a rather poorly informed amateur.

The sad thing of it all is that the layman is inclined to follow the advice of such a person rather than that of one who has really studied the subject and has had practical experience.

Advocating a planting distance of 30 ft. for street trees is wrong; very much so. There is no hard and fast rule for distances. Many factors determine the distance apart that trees shall be planted and the principal one is the variety of tree. Too often we see American Elms (*U. americana*) planted 25 to 35 ft. apart when they should be no less than 75—and more.

Too close planting has had just the reverse effect from that desired in planting. After the trees reach a fair size the crowns meet, blend together and we have a very tall hedge. The individual beauty of the tree is lost. Each tree has its particular charm of form, the Elm, vase-shaped; the pyramidal Pin oak (*Q. palustris*); the coast live oak (*Q. agrifolia*) with long reaching branches, round-headed, needs no less than 75 feet, and so it goes.

Park men are faced with a problem, in that most people want at least two trees on the front of a fifty foot lot. This is bad, very bad, and it is up to the park man to do some high pressure selling. It can be done because it has been done and the streets properly planted are the ones that in maturity stand out in memory as the most wonderful streets you have ever seen.

Let us use design, common sense and our knowledge of tree form in street planting.

CIVIC COMMON SENSE

The "magic city" is no more. Miami, Florida, became the "Royal Poinciana City" when the Chamber of Commerce and other civic bodies decided recently to capitalize on their most valuable asset . . . beauty.

The flaming, riotous beauty of the Poinciana (Poinciana regia) will be planted along railroad rights of way leading into the city, and on all main thoroughfares and highways. The seeds for these trees, a truckload, were collected by the school children of Miami.

This fine civic achievement will not only give Miami an attractiveness that will improve with each passing year, making the city an unforgetable and world famous spectacle, but what is of equal importance, those school children who collected the seed will have had planted in their consciousness the seed of pride and accomplishment. Will those trees ever be destroyed or mutilated by mean or thoughtless kids? No! The psychology here is elementary, those kids will fight for those trees because they are *theirs*. Civic pride has been planted, and Miami will have benefited twofold when in years to come both the trees and children grow into good useful citizens.

Many another American city would profit by emulating this fine thoughtful act, which is both esthetically and commercially a civic improvement.

Edward H. Scanlon

Pruning Ornamental Trees and Shrubs

L. C. CHADWICK
Associate Professor of Horticulture,
Ohio State University,
Columbus, Ohio

Pruning as a horticultural practice has been performed for a great many years. There is nothing mysterious and little new in its operation, yet it is not uncommon to find plantsmen pruning ornamental trees and shrubs with little thought in mind of what the ultimate effect of the operation may be upon the growth of the plant. Foremost in the mind of the pruner should be the anatomical and physiological functions of the plant and how these may be suppressed or stimulated to bring about the desired results. Pruning has been defined as the suppression of certain plant parts that are no longer effective or required so that additional energy may be available for the development of those parts which best satisfy the requirements of the particular situation. It is true that pruning should be more often considered on the basis of its effect on growth or on the shape of the plant rather than of the necessity of the removal of dead and broken branches or the making of clean cuts.

Plants Living Organisms

Most horticulturists now realize that plants are living organisms and not just masses of material. Plants being composed of living cells and tissue systems, are capable of modifying their normal habit of growth or mode of development under the influence of external stimuli. Secondary growth is brought about by the new cells formed from the cambium layer, the most active of the meristematic tistues. These cells cut off by the cambium layer during growth compose the main vascular tissues of the stem. Those within the cambium aid in the movement of water and mineral elements from the roots to the leaves where plant foods are manufactured. The tissue bordering the cambium on the outside functions in the movement of the foods, downward in the plant, and with others in the storage of foods.

It is not necessary to discuss the other parts of the plant body to show that each part has a definite function to perform and when these proceed uninterrupted normal growth takes place. Just as true is the fact that if a certain plant part or parts are interrupted in their normal function, variations in its customary development occur. Thus it is possible for the plantsman to suppress or stimulate some of the plant parts to bring about the type of growth and development he desires.

If one turns to the literature he is faced with the fact that there is little scientific information available to form the basis for pruning practices with ornamental plants. Few pieces of research have dealt entirely with ornamentals. Thus it is necessary at present for the plantsmen to base their operations mainly on the results of tests conducted with fruits. While the ultimate aim in the production of a fruit tree generally differs from that of ornamental plants many of the fundamental operations can be applied equally well to both types.

Response of Plants to Pruning at Different Seasons

I should like to mention, first, a few facts concerning the effect of dormant pruning on growth of young plants. The most evident effect of pruning of young trees at this season is an increase in vigor, especially during the following growing season. Vigorous shoot growth is produced near the cut end which continues to grow later in the season than normal shoots and usually bear somewhat larger leaves of a deeper green color.

The causes of this increase in vigor may be due to a number of reasons, often not clearly understood. One of the principle reasons seems to be the increase in the amount of water supplied to the growing points. This may be accounted for by the fact that, at least, at the start of the growing period, the roots continue to absorb water as does the plant not pruned and this water is readily conducted to the top of the plant, the leaf surface of which has been reduced by the pruning operation. Closely correlated with this is the fact that on the pruned trees there is a smaller number of growing points remaining to use the stored food and the water supplied. There is some evidence to show that the efficiency of conduction of water and mineral nutrients in pruned trees may be actually increased over the unpruned trees. This may be accounted for the less hindrance to ready conduction in the straight, vigorous shoots and, due to the cutting back of the branches, the growing points are nearer the roots.

On some plants the invigorating effect of pruning may be due to the removal of flower buds which if allowed to develop greatly reduce the food supply to the growing points. One of the benefits of pruning newly planted trees that flower profusely in early spring is through the conservation of energy which would otherwise be expended in developing flowers and fruit.

Regardless of this early invigorating effect of pruning, especially on shrubs and small trees, it is nevertheless a dwarfing process in the long run. This dwarfing is caused by the amount of wood removed, combined with the reduced leaf surface which eventually leads to a reduction in root growth, due to lack of sufficient food. This statement may be made clearer by citing two examples of tests with small fruit trees. In one test it was shown that the tops of non-pruned trees at the end of a five-year period were 33 per cent greater, and the end of a ten-year period, 7 per cent greater than tree receiving what was deemed normal pruning. In another test it was shown that although the leaf surface increased more rapidly in slightly and severely pruned trees, than in non-pruned trees, the latter had much the larger total leaf surface at the end of the season. Also the effect of top pruning on the growth of roots was clearly shown by the fact that the weight of roots on non-pruned trees was nearly 25 per cent greater than those pruned slightly and 65 per cent greater than those pruned severely at the end of the first year of the test. The figures presented in these tests indicated that the reduction in the top of the tree probably can be accounted for by the fact that the pruned trees produced less food and a larger percentage was used in the growth of the tops than in the unpruned plants. Thus much less food was available for root growth.

The effect of dormant pruning on mature plants may be even more pronounced in causing invigoration. With some types of fruits a rather severe pruning may probably prolong the life of the plant.

Effect of Summer Pruning

The effect of pruning at this season will depend upon the time it is performed and various climatic and soil conditions. If done early in the summer the influence on growth will be much the same as follows dormant pruning.

Pruning during late summer, if delayed until after the rest period starts, will also have much the same effect upon the plant as dormant pruning except as it usually materially delays maturity and hardiness. An ample and healthy leaf surface is imperative to proper maturity and hardiness.

It is well to point out a few details of how pruning practices effect top growth. In general, the cutting back of branches will increase the thickness of the top, increase the amount of shoot growth, and likewise the size and color of the shoot leaves. On the other hand, thinning out may tend to increase the length of individual branches. The greatest dwarfing of an individual branch will follow when it is pruned and the rest of the top left unpruned. Both the above operations tend to reduce the total amount of growth in the long run. Thus they should be practiced only when specific needs demand.

Pruning a Phase of Proper Management

Pruning should not be considered separately from other cultural practices. It should be thought of as a part of proper management to bring about the desired results in our ornamental plants. The basis for management is the selection of proper plants. Much labor and worry can be obviated by more attention to the choice of plants we use. Here the nurseryman, landscape gardener and arborist can perform a real service by aiding the home owner in selecting plants that will be satisfactory in the situation where they intend to use them.

Careful consideration should be given to the environmental and cultural requirements of the plant. It is not difficult to find plants which have become too tall or too wide for their location or because they were not adapted to shady situations leggy growth has developed. These plants require regular pruning, much of which could have been avoided if more attention had been given to the original selection. Therefore, too much emphasis cannot be placed on proper choice of plants. It will save much labor in pruning and other cultural practices thereafter.

(*To be continued*)

The magnolia is named in honor of Pierre Magnol, professor of botany at Montpellier, who died in 1715.

A single plant of the Sahuaro Cactus may contain as much as 100 gallons of water.

In proportion to its weight, bamboo is the strongest known wood. In "Materials and Construction", Johnson declares: "The wood of bamboo is just twice as strong as the strongest wood in cross-bending, weight for weight, when the wood is taken in specimens, with a square and solid cross-section."

About California's Pine Forests

C. S. MARTIN
Forest Engineer, Western Pine Association, Portland, Ore.

Recent campaigns in the Hearst newspapers in California are directed to the very meritorious purpose of preserving the magnificent forests of the State for the present and future benefit of its citizens. One proposal advocates the initiation of a widespread planting program; the other, a series of articles by Donald Peattie, would have greater areas withdrawn from use and dedicated as wilderness preserves. Both are laudable in intent but both rely on such fundamental misconceptions of fact in developing the need for more planting and more wilderness areas that much harm may come to the State through the resulting misguided public opinion.

The first tenet of the authors is that California's forests are at the verge of destruction through lumbering and losses by fire and that heroic action must be taken to save the remnants. This is the almost universal viewpoint of the individual who acquires his forestry knowledge by motoring over improved highways and viewing the landscape from railway trains.

—*Courtesy Western Pine Association.*

The mature pine has been cut along this road, leaving its beauty unimpaired and a stand of mixed species is left for future cuttings.

Cut Less Than Growth

As a matter of fact, during the past eight years, 1930-1937 inclusive, the total cut of all species in California's pine forests averaged 714,942,750 ft. B. M., while the sustained yield possibilities of these same forests, as developed by a study made in 1934 which used Forest Service Growth estimates, are over 1,500,000,000 ft. B. M. per year. Even during 1926-1930, a period of peak production, the lumbering drain was less than the sustained yield capacity of the forests. And during the past eight years only half the capacity has been cut.

So there is no merit whatever in the contention that the lumberman is destroying the State's forest resource.

—*Courtesy Western Pine Association.*

A stand of timber partially cut. Note uninjured seedlings on ground; reserve stand of immature trees behind man in picture; mature timber still to be cut in right background.

Selective Logging

Again the facts point contrarywise. On a 1937 survey of 17 typical lumbering operations it was found that on an average 27.7 trees above 12 in. in diameter were being left on each acre as residual stands. Of these trees 10.6 were pines.

On the drier east side types where tree growth is more sparse, 9.7 trees above 12 in. in diameter were being left per acre, 4.3 of them pines. This takes no account of the masses of seedlings and young growth on many of these areas.

Having left their lands well supplied with seed trees and some residual growing stock, the private timber owners of California are doing a fine job of fire protection. In ten years only about one-third of one per cent of their forest lands have been burned over by uncontrolled fires. This is nearly as good protection as can be had, and when one realizes that only 2 to 3 per cent of the fires are caused by lumbering, while the rest start from careless travelers' cigarettes, matches and camp fires, from lightning,

(*Continued on Page* 18)

RUTHLESS PROPAGANDA

Under the austere title, "Conservation Enemy No. 1", the accompanying cartoon appeared in a recent issue of the Los Angeles Evening Herald and Express. Released during California Conservation Week, it is an obvious attempt to create false impressions and implies that lumber companies are still the destroyers of old. This is not true.

All lumbermen are not practicing good forest management, but a turn in the right direction has been made and smart conservationists should acquaint themselves with the real facts. It is still true that you can catch more flies with honey and conservationists should take this old adage to heart and work with the lumberman. It is rather far fetched to call a man names then expect him to fall in wholeheartedly with your ideas; however, the private foresters who "have got religion" should persist in a determined campaign to show their less visionary brothers the value to themselves, to the nation (to which they should be grateful for the privilege of owning forest land) and to posterity of good land use.

With new forestry schools continually being established and pedagogues selling youngsters on the "romance" of being a forester, unemployment among graduate foresters continues to increase, alarmingly. Why not strike up an accord between private forestry and forestry organizations to expedite private forest management on a sound basis, without the mud slinging; eventually this will make many thousands of positions for trained men. With the factions in their present strained relations it would not be at all surprising if the private operators were to demand that any forester they hire have no outside affiliations . . . and that would not be so good. Tolerance and a look over the fence at the other fellow's side of the story are needed . . . now.

—Courtesy Los Angeles Evening Herald and Express.

Park School at University of Southern California

J. T. Allen, Glendale Park Superintendent, recently elected president for 1938 of the California Association of Park Administrators.

The University of Southern California school of government, Park section, opens on the Los Angeles campus, June 13.

Mr. H. Lee Bancroft, Superintendent of Parks at Lansing, Michigan, fellow and past president of the American Institute of Park Executives, will be the section leader. Mr. Bancroft is a nationally known leader in park administration and under his able leadership the accomplishments of the school this year should transcend past meetings.

The plans for the section were worked out mutually between the school authorities under Dean Emory Olsen and J. T. Allen, president of the California Association of Park Administrators who worked with the following committees to perfect a most interesting and instructive program.

COMMITTEE
PARK ADMINISTRATION

Emerson Winter, Chairman, Superintendent of Parks, City of Alhambra, California.
Allen, J. T., Supt. of Parks and Recreation, Glendale.
Brooks, Ralph S., Construction Engineer, Los Angeles County Dept. of Camps and Playgrounds.
Chapman, George V., Supt. of Parks, Beverly Hills.
Eaton, H. E., Planning Commissioner, Culver City.
Garwood, Glenn W., Supt. of Parks, South Pasadena.
Griggs, Dale, Supt. of Parks, Santa Ana.

(*Continued on Page* 16)

FIFTH WESTERN SHADE TREE CONFERENCE, SACRAMENTO, APRIL 28, 29—(1) *Gilbert L. Skutt, Superinten*
Committee, Fifth Conference; (3) *Merritt B. Pratt, State Forester of California—Local Arrangements Committee, Fifth Conference*
Fifth Conference; (5) *Fred N. Evans, Superintendent of Parks, Sacramento—Fourth President, Western Shade Tree Conference;*
President; (8) *Edgar M. Sanborn, Park Forester, Oakland, newly elected Fifth Presiden*

✣ OAKLAND IN '39 ✣

The most enthusiastic and progressive of the series of Western Shade Tree Conferences, the fifth, was completed April 28, 29 at Sacramento, Calif. Nearly 200 were in attendance.

In addition to the many splendid papers contributed by leading investigators in various fields of tree preservation was the exhaustive study and discussion on the subject of regulating the commercial practice of arboriculture in California. Whether the regulation shall be accomplished by State supervision or the establishment of a copyrighted name—the privilege of which to use would be granted only after passing a satisfactory examination and paying a fee—was not definitely settled, but two committees were named to study the discussions and get together in three months.

The Northern committee will be chairmaned by Leslie Mayne of Palo Alto, with Roger Sohner of San Anselmo, and E. S. Whitaker, Assistant State Landscape Engineer, assisting. The Southern committee consists of Edward H. Scanlon, chairman; George K. Freeman of Santa Barbara and W. E. Rowland of Los Angeles.

Edgar M. Sanborn, Park Forester of Oakland, was elected President for the Sixth Conference which will be held in Oakland, the dates to be announced later. Ted Holderness, City Forester of Pasadena, was elected Vice-President, and Edward H. Scanlon re-elected Executive Secretary.

Edgar M. Sanborn, president of the Sixth Western Shade Tree Conference

Shade Tree Contest

Commencing with the next issue we shall institute a tree series. In this series we shall give the forest and ornamental values of each tree or both as the case may be.

Many trees have as high an esthetic value, as commercial; for example, the White Oak (Q. *alba*) one of the artistocrats among trees, is highly prized for its tough durable lumber equally with its high standing as a shade and ornamental specimen.

To secure the concerted opinion of Arborists, Foresters and others engaged in some form of tree work we invite opinions from the country over as to the "ten best shade trees". It will be difficult to crowd into this bracket the many fine trees we have in the north, east, south, northwest and southwest; however, the ten receiving the highest number of votes will be the first to be run in our series, with the runners-up appearing in order.

Send in your choice immediately to the Editor. Pick your trees as you see fit, but pick them—this should have some very interesting results. The first results will be made public in our next issue. Don't delay . . . let's get together and select a "royal family of shade trees."

Superintendent of Parks, Los Angeles—First President; (2) Chas. E. Haenggi, Assistant Superintendent of Parks, Sacramento—Local Conference; (4) H. Dana Bowers, Landscape Engineer, California Division of Highways—Chairman Local Arrangements Committee, nference; (6) Edward H. Scanlon, Editor, "Trees, Parks and Forests"—Executive Secretary; (7) George K. Freeman, Arborist—Third h President; (9) Ted Holderness, City Forester, Pasadena, newly elected Vice-President.

National Conference

The most westerly location in its history finds the Fourteenth National Shade Tree Conference convening this August 30 at St. Louis, Mo.

Vance Shields, the chairman for local arrangements, and Dr. L. C. Chadwick, Executive Secretary, promise many innovations. Western arborists should take advantage of the opportunity to attend this conference, which will probably never be held closer.

ST. LOUIS, MISSOURI
AUGUST 30, SEPT. 1 AND 2, 1938

TUESDAY EVENING, AUGUST 30

7:00—Meeting of Commercial Arborists.

WEDNESDAE MORNING, AUGUST 31

9:00-12:00—Registration.

Visit the Trade Exhibits.

WEDNESDAY AFTERNOON, AUGUST 31

1:30—Welcome by Governor or Mayor
Response by Pres. Karl Dressel

2:00—Business meeting

3:15—"Trees of Missouri." George Mattingly, Missouri State Highway Dept., Jefferson City, Mo.

3:45—"Tree Surgery West of the Rockies." Edward H. Scanlon, Ex. Sec'y of Western Shade Tree Conference, Santa Monica, Calif.

Karl Dressel, Assistant Professor of Forestry at the Michigan State College of Agriculture and president of the National Shade Tree Conference.

4:15—"Safety Practices." Mr. Strufe, Safety Director, Davey Tree Expert Co., Kent, Ohio.

WEDNESDAY EVENING, AUGUST 31

No organized program. Distribution of booklet on what to see and where to go in St. Louis. Possibility of St. Louis municipal opera or boat trip on the Mississippi.

THURSDAY MORNING, SEPT. 1

9:00—"City Forestry Problems." C. E. Smith, City Forester, Detroit, Mich.

9:30—"Tree Moving Practices in the Far West." C. F. Holderness, City Arborist, Pasadena, Cal.

10:00—Discussion

10:30—"Tree Moving Practices in the Mississippi Valley." Vance Shield, Clayton, Mo.

11:00—"Effect of Some Synthetic Growth Substances on Root Development of Transplanted Trees." Dr. Paul Tilford, Ohio Agricultural Experimental Station, Wooster, O.

11:30—Discussion

THURSDAY AFTERNOON, SEPT. 1

1:30—Visit to Missouri Botanical Garden. Demonstration of scientific instruments and field experiments. Dr. A. P. Beilman, Missouri Botanical Garden, St. Louis, Mo.

Field demonstration of commercial equipment.

THURSDAY EVENING, SEPT. 1.

Annual banquet.

Entertainment and dancing.

FRIDAY MORNING, SEPT. 2

9:15—"Value of Trees in Landscape Composition." John Noyes,

(*Continued on Page* 18)

What of the Redwoods

EMANUEL FRITZ
Associate Professor of Forestry
University of California

All the world is interested in our redwood forests. From every corner of the globe come visitors to see for themselves if we have overrated their greatness, and all leave fully satisfied that we have something in these magnificent forests that cannot be equalled anywhere. Small wonder too that each awed visitor looks upon them as a heritage belonging not to California alone, and takes it upon himself to demand the preservation of suitably large areas that all future generations may see them, ponder over the wonder of nature and obtain inspiration.

Californians are not unaware of what the redwoods mean to their state, even though sometimes they may be believed to be too close to them to appreciate them as they should. Perhaps we Californians do not now get the thrill from them that we got the first time we walked among them. That first thrill is emotional to some extent. We have gotten over our first thrill and we now *know* the redwoods as no visitor can hope to know them on his first visit. To know the redwoods one must live among them, see them in every mood, under every light condition . . . at dawn and at twilight, in the fog, in the sun, and in the rain. No other forest hides so many tree secrets, none wears its "heart on its sleeve" less. And no species, as much as the redwood, does so many unusual things. Foremost, of course, is its vitality. It has warded off tree killing insects and disease for ages, so that today, even though many insects and diseases find it a suitable host, none exists, as far as is known, that endangers the species. That is one reason why redwoods can attain such great age. No species, too, can withstand so many injuries and recover from them. This very vitality and this resistance are also redwood's misfortune, for it has given rise to a belief that "you can't hurt a redwood." You *can* hurt it. As a result of past fires, winds, lightning, and many bruises, very few redwoods are perfect. In fact, a redwood forest is full of cripples . . . hollow trees, so hollow that one wonders how they can remain standing; broken topped trees, spike topped trees, etc. On park areas these deformities often lend picturesqueness, but, on commercial areas, they cause much loss.

—Courtesy Carterpillar Tractor Company.

Tractor with Williamette cruiser in operation at Scotia, California. Note tremendous load.

The Future of the Redwoods

But what of the future of the redwoods? To answer this question adequately and fairly we must divide our redwood forests into two classes. In the first we shall put those areas of outstanding worth which must be saved at any cost, and those areas which are accessible to main routes of travel and are important for their scenic value. In the second class we shall put those areas that are to be lumbered to produce the lumber and other products we want for our homes and industries, and that should be reproduced to provide continuing crops of trees for permanent industries. We do not need all of the redwood forests for parks and recreation areas. There are approximately one million acres of redwood forests still standing. This area is not bunched in a single large block, but stretches, shoe-string wise, all the way from south of Monterey to just over the Oregon line, a distance of more than 500 miles. All of the redwood region lies within about 40 miles of the coast line.

The State Parks

Long ago, under a mistaken federal land policy, the rewood forests were put into private hands, to be operated to develop the country. But thanks to the vision and energy of a few men, there have been purchased back and dedicated to public park purposes, about 40,000 acres of some of the finest of the redwoods, valued at about $6,000,000. In the south we have the public-mauled Big Basin park of Santa Cruz County. We have the charming Muir Woods in Marin County, Armstrong Woods in Sonoma County, Prairie Creek Park in northern Humboldt County and Del Norte Park in Del Norte County. Best of all is the great stretch of Humboldt State Redwood Park paralleling our famed Redwood Highway from near Garberville to Dyerville, over 20 miles. At Dyerville it widens out to include all of Dyerville and Bull Creek Flats, where this tree species reaches the acme of perfection and grandeur. It is here that many trees tower to 350 feet and some few exceed 360 feet, with breasthigh diameters exceeding 16 feet.

We are not satisfied yet. There are still some important areas to be acquired for state parks. One such is the fine timber paralleling the Redwood Highway north of Dyerville for about 10 miles. Already arrangements are being made for options on this area. The owners are refraining from cutting it while the Save-the-Redwoods League endeavors to raise the purchase money. The owners realize what this area means to the public and that it should be preserved. It is gratifying to know that a semi-public agency and a private owner can work together in so friendly a way for the common good. And there are other areas, too, that the League feels should be added to the state park system and which it is planning to acquire as soon as funds become available. Eventually, there will be over 70,000 acres of the best redwoods in state

(*Continued on Page* 16)

Some Exotic Oaks In California

WOODBRIDGE METCALF
Extension Forester, University of California

"Behold the monarch of the woods, the mighty old oak tree,
He braves the raging of the storm on land or rolling sea."

These words of the famous old English song pay tribute to the sturdy qualities of the oak which have made it notable for massive beauty in the landscape and of great utility to man because of the strength and lasting qualities of its timber. In California we are well supplied with native oaks of great size and beauty to give distinction to the landscape. They range in size from towering specimens of valley oak and interior live oak of the interior lowlands, through coast live oak and tanbark of the coastal valley and hills, blue oak of the foothills, black oak and maul oak of the Sierra timber belt, to shrub-like varieties such as scrub oak of the chaparral and huckleberry oak of the high mountain ridges. With such a wealth of native species, it is perhaps natural that there would be less attention to bringing in varieties from other parts of the world, and that those which are here should have received little notice or attention.

Massachusetts Oak

Ever since pioneer days oaks have been brought to California and planted here and there by people who wished to have an enduring reminder of the old home from which they came. Many of these trees have now developed into tall and beautiful specimens which indicate that they may be almost as satisfactory here as they were in their home situations. One of the most interesting of these trees stands at 32 Union Street in Santa Cruz where it is locally known as the Massachusetts Oak. This swamp white oak, *Quercus bicolor,* was brought as a seedling in a flower pot by Amasa Pray when he came to California from Dorchester, Massachusetts, by way of the Isthmus of Panama in 1866. The tree is now a fine specimen 25.2 inches in diameter, 62 feet high and 70 feet in crown diameter. It has the typical light gray bark and somewhat chestnut-like leaves which mark it as one of the white oaks. Those familiar with the tree say that it rarely bears acorns. There are two other trees of this species along the highway about two miles from Coloma where Marshall discovered gold. Apparently no one knows who planted these trees. They are not as large as the Santa Cruz specimen. In the eastern United States this tree of the moist bottomlands reaches large size and is cut and sold with the upland *Quercus alba* as valuable white oak lumber. Thus far I do not know of a good specimen of the latter species growing in California.

Another white oak variety of the moist lowlands of the east is the large-leaved swamp chestnut oak, *Quercus prinus.* It is also known in its native haunts as cow oak and basket oak. There are two beautiful specimens of this tree near the center of Capitol Park, Sacramento, where they seem to thrive in the moist conditions brought about by irrigation of the lawns. One of them is 14 inches d.b.h. by 64 feet tall and the other is 18.7 inches in diameter by 60 feet tall. In the east this tree reaches large size and its wood is valuable for many uses.

European Visitor

A tree from southern Europe with slender chestnut-like leaves is occasionally seen in California gardens. It has much darker bark than the above tree and the leaves though daintily formed, are firmer in texture. It is the Turkey oak, *Quercus cerris.* A fine large specimen is growing in the front yard of the old Bidwell mansion at Chico; several small trees are doing well on the University campus at Berkeley, and a particularly nice tree is to be seen on the east side of Arch Street, Berkeley, in the first block north of the campus. It should not be confused with the American turkey oak mentioned later.

The famous oaks of England about which so many songs and stories have been written, are frequently met with in California plantings and if given care and irrigation seem almost as much at home as in the moist climate of the British Isles. This is called *Quercus robur* and two forms are recognized: one with acorns on long stalks, the other bearing them close to the twigs. The beams, panels and furniture in Westminster Abbey and many other famous edifices are constructed of the remarkably durable wood of this oak. One of the best specimens of this tree is growing on the bank of the stream, directly south of Agriculture Hall on the Berkeley campus while another one is to be seen at the old Gill Nursery site west of San Pablo Avenue in Berkeley. Several good specimens are growing along the driveways at the old Forestry Station in Chico and I recently measured a tree 17.7 inches in diameter and 30 feet high in an old planting at 123 S. First Street, Alhambra. When grown in the open these trees develop broad, rounded crowns of dense foliage. The leaves are oval in shape with very regular and beautifully rounded lobes and sinuses.

White Oaks

While we are talking about white oaks, we must not forget the one which is perhaps more at home under a number of California conditions than any tree native east of the Rockies. This is Bur Oak, *Quercus macrocarpa,* which may be recognized by the leaves which are broadest above the middle and usually cut nearly in two by a single deep sinus. The acorns too are buried deeply in a fringed cup which gives it two other common names: overcup oak, and mossycup oak. This tree seems able to cope with our long, dry seasons with a minimum of irrigation, though one of the finest specimens it to be found on the irrigated lawn of Capitol Park, Sacramento, north of the Capitol. It has a broad, spreading crown and is 34.4 inches in diameter breast high by 100 feet in height. Another very beautiful tree is growing at the Patterson Ranch near Newark, Alameda County. It is just under 40 inches d.b.h., 80 feet tall, 100 feet in crown diameter and often bears large crops of acorns. A small plantation of these trees has done moderately well without irrigation at the Chico Forestry Station, but the growth is slow. A few trees planted along the highway near Visalia have grown at about the same rate as adjacent specimens of the native Valley oak, *Quercus lobata.*

Black Oaks

A number of beautiful ornamental trees belong to the black-oak group in which the leaves or the tips of their lobes are spiny and the acorns have a woolly coating inside the shell and require two seasons to mature. California black oak, *Quercus kelloggii,* is our best native example of this group of trees but although it is an important feature of the forest over much of our mountain country, it has rarely been planted as an ornamental tree. Northern red oak, *Quercus borealis,* and its varieties is one of the most rapid growing, vigorous and beautiful trees of the Lake States and upper Mississippi River basin. Its leaves are large and symmetrical, and their brilliant green in spring and varied shades of red in fall are features of beauty throughout that entire area. The bark on young trees is usually smooth, gray-green and even on old specimens this character is noted on the broad plates of bark. It seems strange that this fine tree has not been used much in California plantings, but there are a few fairly good specimens in the San Francisco Bay region. One tree in the old botanical garden on the University of California campus at Berkeley is 15½ inches in diameter and 52 feet tall and there are a number of smaller trees on Berkeley streets. The best of these are on San Pablo Avenue at the old Gill Nursery although their tops have been cut back on account of power wires. The largest is 12.9 inches d.b.h. by 60 feet tall. These trees are probably about fifty years old.

Pin oak, *Quercus palustris,* has a distinctively upright habit of growth with a continuous upright main stem and slender, short, lateral branches. It has a well-deserved reputation as one of the most attractive oaks native in the eastern hardwood region. Its leaves are slightly smaller than those of red oak and usually deeply cut. They occur on short, pin-like twigs, turn deep brown in the fall and many of them persist on the branches through the winter. Fuller Park in the town of Napa has eight beautiful specimens of pin oak about 50 feet in height which well demonstrate the ornamental value of the species. Last fall these trees bore a large crop of the small, red-brown acorns set close to the twigs in thin, saucer-like cups. Good acorns have evidently been borne by these trees for several years as a number of thrifty seedlings are coming up at the edges of the lawns. There is a good specimen at the Freeman place in Berkeley and I believe one or two trees in the city parks in Sacramento, but this species has not been used as widely as its beauty deserves.

Fall Coloring

For beauty of autumnal coloring the showiest of all American oaks is the Scarlet oak,

(*Continued on Page* 15)

—*Courtesy California Highway and Public Works.*

General view of campanile, adobe walls and roadside beautification at intersection of U. S. 101 and State Route 22 leading to Mission San Juan Bautista.

Modern 'Dobe In Mission Monument

H. DANA BOWERS

Landscape Engineer, Calif. Division of Highways

The town of San Juan Bautista, which developed from a small pueblo of some fifty inhabitants in 1839, derived its name from the Mission San Juan Bautista, founded in this locality in 1797 by the superior of the missions, Friar Presidente Fermin Francisco de Lasuen.

Because of the historical and romantic background that surrounds this beautiful old mission, and in accordance with its policy of perpetuating and indicating the locations of all points of historical interest, the Division of Highways and the U. S. Bureau of Public Roads approved an appropriate roadside treatment of the intersection of the main traveled highway and the "Rocks" Road as an attractive indication to the traveler that one of California's historic old missions lay only a short distance away.

The cross and the campanerio or campanile, with its mission bells and adobe construction were selected as the motif of the development.

'Dobe Walls

Additional right of way, forming a triangular area of the intersection, was acquired and this area was enclosed with adobe walls. The west wall along the main highway is seven feet in height, the northeasterly curved wall is six feet and the southeasterly wall was used to screen a cut slope. All walls are two feet in thickness with the low curb walls being twenty inches in height and placed to form an enclosure and a protection for the planted areas.

The campanile is located in the northeasterly area and the cross directly opposite, in the southeasterly area. Olive trees were placed to produce a framing effect for both objects. The campanile was purposely placed on the northeasterly side by reason of the silhouette effect obtained against a background of rolling oak-dotted hills, and this effect is accentuated when approaching the intersection from the south over a vertical curve.

Use Pepper Trees

Many plants, introduced by the padres and commonly seen in the patios of the old missions, were used in the landscaping. Pepper trees were planted behind the wall on the west side for windbreak purposes and to give the effect of depth and background.

Water, for the maintenance of the plants, is secured from a well dug several hundred feet to the south and the installation of a gasoline pump and water lines.

Unlike ordinary adobe bricks, used in the construction of the mission, the bricks used on this propect were stabilized with asphaltic emulsion. Considerable difficulty was encountered, at first, in preparing a satisfactory proportion of soil, sand, straw and asphaltic emulsion that would sun-dry without cracking. It was impossible to use this material on a satisfactory and economic basis for the production of the larger volume needed for the project.

As a result of experiments, the adobe material was rejected and top soil consisting of a sandy loam, combined with approximately 50 per cent sand from the San Benito River was used in the manufacture of the brick. This blend of material, when mixed with asphaltic emulsion as a stabilizing agent and finely chopped straw, produced a satisfactory brick.

A pugmill designed specifically for the manufacture of adobe brick, together with trucks, molds and other necessary equipment, were rented. This machine was of home-made construction, and consisted of a half-round trough approximately six feet in length. In this trough a longitudinal shaft was placed on which were mounted a number of nine-inch blades set at fifteen degrees from right angle. The shaft rotated at a speed of approximately thirty-five revolutions per minute. Power was supplied by an automobile engine.

Soil, sand, finely chopped straw and asphaltic emulsion were fed into one end of the mill and mixed as the materials were worked toward the discharge end of the mill by the angular pitch of the blades. The mixture, having reached a plastic consistency, was forced from the discharge end of the mill by a set of flat spiral blades through a manually operated discharge valve into the assembled brick mold lying on a roller conveyor track immediately below the trough.

These brick molds consisted of two parts, a detachable bottom or pallet of lattice-like construction formed by nailing wood strips transversely across two supporting wooden members and a main body or rectangular wooden form constructed to the side and end dimensions of the brick allowing for a small shrinkage. This form slipped over and rested on the detachable bottom or pallet.

In the molding process the two parts of the form were assembled, placed on the conveyor track and filled with the required amount of the plastic mortar which was hand tamped, care being taken to assure that the corners were filled and all voids eliminated. The mortar was then struck off flush with the top of the form and the brick still encased in the molds moved down the track to await conveyance in groups of four to the drying field by a cart mounted on small rubber tires.

The cart was automatically tipped at the point of discharge by lowering the front end and backing. This action relieved a trigger which permitted the form encased bricks to slide to the ground in a continuous row. Side forms were immediately stripped and returned to the pugmill on the conveyor where they were assembled with new pallets.

(*Continued on Page* 17)

Authors and Book Reviews

AN ILLUSTRATED MANUAL OF PACIFIC COAST TREES: McMinn and Maino. 409 pgs. University of California Press, $3.50.

Published in 1935, so is not new, but instantly became the "bible" of Western arborists, landscape architects, etc. The finest work to date and highly commendable. No other book covers the plethora of exotic material found in Southern California as well, but there were many worthwhile flowering trees rapidly scanned or entirely overlooked.

HOLY OLD MACKINAW. Stewart H. Holbrook. Macmillan Company. $3.00.

Tells the story of a breed of men now almost extinct—*homo lumberjacko;* how they lived and the path they hewed through the virgin timber of America from Bangor, Maine, to the slopes of the Pacific.

They cut and slashed, fought and drank; they were tough, ruthless and thoughtless, were those old lumbermen. The story tells of the pillage of the forest by these oldtimers and comes down to this day of their grandsons who have realized the error of their ancestors' ways and have turned to intelligent handling of their resources—the forest.

This story will hold you 'til you turn the last page. It is truly a grand tale.

FOREST PATHOLOGY: Dr. John S. Boyce. 800 pages, 216 text figures. McGraw-Hill Book Co., 1938 (American Forestry Series.) $5.00.

No comprehensive text on forest pathology has appeared since 1931 and the results of considerable research have accumulated during that interval. The present work embraces a thorough search of the literature and brings the subject authoritatively up to date. The different diseases, ranging from non-parasitic to the deterioration of fallen timber and the decay and staining of forest products are clearly and broadly discussed.

Diseases of living trees are segregated under the chapter headings of seedling, root, foliage and stem diseases, while one chapter is given to mistletoe, epiphytes, and climbers. Insects in relation to the deterioration of dead timber are briefly considered and the last chapter on "principles of forest-disease control" makes available to the forester general recommendations for the amelioration of disease conditions. This is particularly important, since intensive eradication of diseases in the forest is seldom economically feasible and the practitioner must learn to live with them by interposing sufficient barriers to hold them in check.

Dr. Boyce is Professor of Forest Pathology at Yale University but previous to that appointment had many years' experience with forest diseases in the Pacific Northwest. The book is, therefore, well rounded and is produced out of the wide findings of research. It will stand the closest technical scrutiny of the expert in forest diseases and at the same time orient the forester in the practical aspects of disease control. The publishers have held to their high technical standards of production, which also merits well-deserved praise.—Reviewed by Dr. C. J. Humphrey.

GERMAN FORESTRY: Franz Heske, 342 pgs., Yale University Press. $5.00.

The book long waited for and needed by American foresters. It is the result of a coordinated effort by the United States Forest Service, private lumbermen and the Carl Schurtz Memorial Foundation to make the centuries old forest management plan of the German nation available to foresters the world over, but particularly to American foresters.

With a forest use history dating back to the time of the Crusades, roughly about 800 years, it is little wonder that Germany is considered the cradle of forestry.

The fascinating struggle through the ages is told in a most interesting and instructive manner by Dr. Heske.

Dr. Graves in the preface says: "Dr. Heske's book deals primarily with forest economics and policy. The author presents in a masterly way facts regarding the character, extent, and ownership of forests in Germany, the growth, production and utilization of wood materials, and the general public services of the forests in watershed protection, in wild life conservation and recreation, and in supporting industry, providing employment, and stabilizing communities." . . . "Dr. Heske's description of the development of silviculture and forest management is especially illuminating to the American reader. He points out the successive stages of progress; beginning with curtailment of quantity of cut, then the introduction of silviculture measures for forest replacement, then activities for improvement of stands, and finally organization of forests for sustained yield."

This book should be on the shelf of every forester whether he has been to Germany or if he merely dreams of going.

THE CALIFORNIA DESERTS: Edmund C. Jaeger. 209 pgs. Stanford University Press, $2.00.

Truly a delightful little book. Scientifically accurate. An invaluable companion for the desert lover, as it covers every phase of that great seemingly limitless garden. The chapters on desert plants, particularly trees, are of real interest. Giving the insect enemies of these trees was a stroke of wisdom.

KNOWING YOUR TREES: G. H. Collingwood. 109 pgs. American Forestry Association, $1.00.

The tree series that has become so familiar to American Forests readers is now available under one cover. The information in this book is priceless, it is worth $10 instead of $1.00. You will never spend a dollar to better advantage.

EXOTIC OAKS

(*Continued from Page* 13)

Quercus coccinea. Its scarlet, red and crimson foliage makes it a notable addition to the forest landscape throughout its wide range in the eastern hardwood region every fall and have caused it to be widely used in foreign gardens. Its leaves in summer are glossy green and they are even more daintily formed and deeply cut than are those of pin oak. The acorns are one-half inch in length on the average, being intermediate in size between those of red and pin oak, and more deeply set in the cups than either. Evidently few of these trees have been planted in California, or else they are more subject to drought than some other eastern oaks. I know of one fine specimen about 25 feet tall which grows on a well watered lawn on the west side of the highway just north of Yuba City, Sutter County. The brilliant beauty of this tree attracts widespread attention each autumn and the leaves persist on the tree well into the winter. It shows that this tree will well repay one for the effort in irrigation and care expended in its development.

SEEDLINGS FROM BATTLEFIELD

The interesting and beautiful black oaks of the eastern hardwood region are present in the battlefield grove on the grounds of the State Capitol at Sacramento. It is said that the trees in this grove were taken as seedlings from battlefields of the Civil War and carefully brought to this spot that later generations might not forget the sacrifices of the men who struggled in that great conflict. The specimen of turkey oak, *Quercus catesbaei,* is from Kennesaw Mountain, Georgia, and is now a thrifty tree 18 inches in diameter and 78 feet in height. It has dark, rather smooth bark and large leaves, broad above the middle with three almost equal terminal lobes. The other tree is almost the same size and has a narrow crown of dainty slender leaves which are anything but oak-like in appearance. This is willow oak, *Quercus phellos,* which is a beautiful tree in lowlands of the Mississippi valley and adjacent regions. This tree memorializes the battle fought at Savannah, Tennessee, on April 16, 1862. With the care and irrigation given these trees it seems probable that they will be standing in living remembrance of the battles two hundred years after they were fought.

LOWLAND VARIETIES

Another slender-leaved tree of the southeastern lowland country is the water oak, *Quercus nigra.* Its leaves are somewhat irregular in shape, but often have a three-lobed apex of unusual beauty. They turn a dark magenta red in the fall. This and the hardiness and beauty of the tree make it a favorite for street and shade planting in cities and towns of the southern states. The best specimen I know of in California is a good sized tree growing beside the stream in the Bidwell mansion grounds at Chico, Butte County. Acorns collected from this tree grew well in the forest nursery at Berkeley and there is now a fine young tree growing beside Yosemite Steps in the yard at 1992 Yosemite Road, Berkeley. A closely related species, also from the southern states, has slightly longer and broader leaves which are usually laurel-like in appearance. This is the Shingle oak or laurel oak, *Quercus imbricaria,* which is frequently used as an ornamental tree throughout its native habitat. A fine specimen of this tree about 40 feet tall formerly stood beside Strawberry Creek on the University of California campus south and east of the Hilgard Chestnut. It was removed in landscaping operations about 1925 and I do not know of another one in the state.

(*To be continued*)

The large number of trees in Cheraw, S. C., are the result of an old town law which required anyone seen intoxicated on the street to go to the woods, bring back a tree and plant it.

WHAT OF THE REDWOODS

(*Continued from Page* 12)

park areas. The units will be so located that the infirm and the rugged alike can visit and enjoy them . . . some groves so close to the roads that they can be viewed from the car windows, others that will permit the hiker full play for his energy.

FORESTRY ON COMMERCIAL LANDS

Now what about the second class of forest, the commercial areas? These, in most part, lie off the main routes of travel, or they are in rugged country. The redwood forests have supported a lumbering industry for over 80 years, and, if present plans for forestry management reach the degree of perfection expected of them, the industry will become permanent. It used to be the custom to log the land clean. What was not suited for saw logs was destroyed during the necessary slash burning operation. From about 1922 to 1930, the companies operated two large nurseries for raising small redwoods for planting on the logged off lands. This program was undertaken under the direction of competent foresters. But our knowledge of redwood forest management was not well enough developed then to warn us that planting would not be as successful in the redwoods as was expected. So the program, abetted by the depression during which very little redwood land was logged, was abandoned.

In 1934 a new program was launched. This follows entirely different lines and approaches the type of forestry practiced in older countries. It is called "selective logging." It is not a good name and foresters don't like it, but, until we can coin a better name, it must answer the purpose. At any rate, it suggests anything but clear cutting. Only four years in effect, the program is already well enough established to indicate that we are now on the right track. It calls for the cutting of mature trees from among the immature. Were it not that we now have available greatly improved tractors, our program would have been delayed. The tractor not only hastened selective logging but it makes it possible to do a much better job of it than would be possible with the old steam donkey. Tractors had been tried prior to 1934 but were found ineffective as general logging machines. But the modern diesel-powered tractor proved successful from the first day of its use. Now there are about 60 such machines for yarding, roading, road building and other logging processes, where, in early January, 1935, there was none of the diesel type.

The selective logging program is still far from perfect. It takes time for all of the workers to learn the new method of logging and it takes more time to adjust woods organization to it, especially on large operations where the investment for railroads, inclines, steam equipment, etc., is heavy. But the man in the woods is for it. The logging boss likes it, while the operator-owner feels it will eventually allow him to continue logging and leave his cutover land in productive condition. The trees he is leaving uncut will grow more rapidly when their competing neighbors have been removed, and they will cast seed for the natural reforestation of the gaps left by the trees removed. When the first cycle of cutting is completed, these trees will have reached merchantable size and will be a sizable nucleus for the second cycle.

One of the most serious problems yet to be solved is that of protecting the uncut trees (the forester calls them residual trees) against damage by fire. The slash from redwood logging is inconceivably great. It must be burned to remove the hazard it creates as it dries out and to clear the ground of debris for the future seedlings. But here also progress is being made. Several experiments have been conducted or are under way by the operators and the government. The State, too, has taken a hand. Recognizing that protection must be perfected to permit the forestry program to succeed, it has increased the personnel of its forest fire forces in the redwood country. And private companies are adopting protective measures of their own.

DUAL GREATNESS FOR THE REDWOOD REGION

There are still enough commercial areas to last the lumber industry several generations. In the meantime the logged over lands will be growing a new crop to keep the industries permanently alive. Redwood lends itself well to forestry management. If all goes well, and it should, redwood forestry soon should be something to brag about, along with the fine redwood parks. The visitor of the future will make a great mistake if he views only the fine virgin forests in the state park. He should visit also a growing forest to get the full story of what a great tree the redwood really is.

PARK SCHOOL

(*Continued from Page* 9)

Hertrich, William, Supt. of Huntington Botanical Gardens, San Marino.
Holderness,. Ted, City Forester, Park Dept., Pasadena.
Kruckeberg, Dewey R., Supt. of Parks and Recreation, Burbank.
Nicholas, W. H., Supt. of Parks, Pasadena.
Roewekamp, Fred W., Landscape Engineer, Park Dept., Los Angeles.
Skutt, Gilbert L., Supt. of Parks, Los Angeles.
Socha, Mabel V., President of Board of Park Commissioners, Los Angeles.

CONSULTANTS

VICE-CHAIRMAN:
Fred W. Roewekamp, Landscape Engineer, Park Dept., Los Angeles.

HORTICULTURE:
Roy F. Wilcox, Horticulturist, Montebello.

ARBORICULTURE:
Edward H. Scanlon, Editor, Western Trees, Parks and Forests, Santa Monica.

PLAYGROUNDS, DRAMATICS AND MUSIC:
Glen O. Grant, Western Representative National Recreation Assn.

BEACH AND PLUNGE SERVICE:
C. P. L. Nicholls, Supervisor of Aquatics, City of Los Angeles.

GOLF SERVICE:
Darcy L. Darcy, Golf Editor, Los Angeles Herald and Express.

CITY PLANNING IN RELATION TO PARKS AND BOULEVARDS:
William J. Fox, Chief Engineer, Regional Planning Commission, County of L. A.
H. Lee Bancroft, Past President, American Institute of Park Executives, Superintendent of Parks, Lansing, Mich.

PROPOSEED PROGRAM

MONDAY, JUNE 13, 1938

9:00- 9:50 a.m. Chairman: Gilbert L. Skutt, Supt. Parks, Los Angeles.
Lecture: "Purpose of Parks in Government." H. Lee Bancroft, Section Leader.
10:00-10:50 a.m. Lecture: "Structural Engineering Problems of Parks." Ralph S. Brooks, Const. Eng. L. A. Co. Dept. Rec.
Round Table Discussion.
1:00-2:20 p.m. Lecture: "Landscape Design." Ralph Cornell, Lands. Arch., L. A.
Round Table Discussion.
2:30-3:50 p.m. Lectures: "Needs and Methods of Training Personnel."
1. "Administration and Operation." Fred Roewekamp, Lands. Eng., L. A. Park Dept.
2. "In Service Training for Program Direction." Rodney Overton, Tr. Spec., Calif. W. P. A.
Round Table Discussion.

TUESDAY, JUNE 14, 1938

9:00-9:50 a.m. Chairman: Dewey Krukeberg, Supt. Pks. and Rec., Burbank.
Lecture: "Organization for Administration." H. Lee Bancroft, Section Leader.

(*Continued on Page* 18)

"SAVE THAT TREE"
Use THE NEW
DAVIS TREE-TYE
Soft, durable rubber, reinforced with double-strength wove fabric protects life arteries of your trees. All lengths and wire sizes. Practical for trees and shrubs, neat, ECONOMICAL — use many times. Write Garden Equipment Headquarters'.
JOHN BEAN MFG. CO.
333 E. 3rd ST., LOS ANGELES, CALIF.
COLLAR TIE
SPIDER TIE
OPEN TIE

Just Out!

A new text and reference book discussing the causal organisms, symptoms- and control of diseases of forest products in the U. S. and Canada.

Forest Pathology

By JOHN S. BOYCE
Yale School of Forestry

Fully Illustrated, $5.00

In this book students and professional foresters will find a complete text and reference showing them how to recognize the various tree diseases, evaluate their importance, and apply measures of control.
All available information is brought together on such subjects as the relation of decay to scaling and estimating timber; rate of deterioration of dead timber (enabling the operator to determine how quickly such timber must be utilized to prevent loss); and the deterioration of forest products by decay and stain and how to prevent it.

Western Trees, Parks & Forests
129 Santa Monica Blvd.
Santa Monica, Calif.

Mission Monument

(*Continued from Page* 14)

BRICKS SUN DRIED

When the molded bricks were sufficiently dried to permit stripping the pallets, they were set on edge and allowed to continue drying for a minimum of twenty-one days before being removed to the stockpile at the site of construction.

Brick used on sloping buttresses and on short radius curves were made in forms designed to meet the special conditions. Otherwise, all bricks were molded 4 inches by 12 inches by 18 inches in size. A total of 33,757 bricks were manufactured using 7159 gallons of stabilizing asphaltic emulsion Grade "D" base, and 175 bales of grain straw approximating 75 pounds per bale. Asphaltic emulsion content was held at approximately 3½% by determining water emulsion ratio and checking this against yield. Bricks consisted of the following proportions:

Soil by volume	50%
Sand by volume	50%
Asphaltic emulsion by weight	1.75 lbs.
Straw by weight	.40 lbs.
Volume of brick in cubic feet	.50
Weight of finished brick (dry)	50 lbs.

Class "C" Portland cement concrete for the wall footings and structures, was purchased ready-mixed delivered to the site of the work.

WALLS AGED

On completion of the bricklaying, the walls were wire broomed to produce an aged or weathered effect which, with stabilized brick, presents a rather difficult problem, due to their hardness. Much of the expense of this aging can be reduced if the bricks are molded imperfectly. By the use of a soft mix this can be easily accomplished.

The walls were whitewashed, using the Government Lighthouse formula except that a stain produced by soaking redwood sawdust in water was added to the whitewash to reduce the glare and to obtain a dull weathered finish.

Exclusive of the campanile and cross construction, there were 15,744 cubic feet of adobe walls laid at a cost of 51 cents per cubic foot.

This cost does not include the curbs and footings, but does include the cost of materials and installation of the woodwork, tile and whitewashing.

CROSS OF OREGON PINE

The cross is constructed of 12 inches by 12 inches Oregon pine timbers. It is set in concrete and additionally braced at the base with adobe brick. The entire height of the cross is fifteen feet. All woodwork was adzed, burned, wire brushed and treated with hot linseed oil.

The campanile was designed after the one at the Pala Mission in San Diego County and is twenty-two feet in height. It was laid on a reinforced concrete base with a reinforced concrete core extending up through the sides and across the top. The padre tile used in the campanile construction was rounded and worn off unevenly to soften the lines and give an appearance of age.

The bells, hung in the campanile, are true mission type. They are constructed of laminated redwood, painted to resemble bronze.

In addition to the treatment of the intersection proper, the tree-mile "Rocks" Road entering San Juan Bautista was landscaped with WPA funds. Trees and shrubs were planted in groups and masses to frame vistas to the foothills and to cover the cut and fill slopes.

Exceptionally fine results have been obtained on this project in the sterile soil conditions of the cut slopes by the use of a very hardy native shrub, Coyote Bush (Baccharis pilularis). This variety has proven to be one of the best native plants particularly where adverse soil and climatic conditions are encountered. Its development is extremely rapid, which is highly desirable in roadside planting. Roads may be constructed and completed in days but plants demand years before the results of expended labor are discernible. A rapidly developing and hardy plant is, therefore, a welcome addition to material used in roadside treatment.

Although this project is probably more pretentious and elaborate than the usual treatment rendered to roadsides generally, it presented a problem that was singular in its demands, and to achieve propriety it was essential that such treatment be on a large scale.

UNIVERSITY OF CALIFORNIA
LOS ANGELES

March 22, 1938

Mr. Edward H. Scanlon, Editor,
Western Trees, Parks and Forests,
129 Santa Monica Boulevard,
Santa Monica, California.

Dear Mr. Scanlon:

As you know, the University proposes to develop, on this campus, work in the fields of ornamental horticulture and commercial floriculture. For obvious reasons, these developments will necessarily be slow. The fields themselves are large and important, however, for which reason proper orientation in the development of the work will be required.

I assume that the shade trees will fall within the purview of ornamental horticulture and hence should be considered in the orientation of the work in that field. Can you, or the group your journal represents, provide us with information concerning the economic importance of shade trees in ornamental horticulture in southern California? If so, it will be greatly appreciated.

Such information as the average number of ornamental trees propagated annually in southern California, the average annual value of sales of such trees, the principal species and varieties grown, and the major problems presented in their propagation and maintenance would be most helpful.

Thanking you in advance for such information as you may be able to provide and with best wishes for the continued success of your journal, I remain

Very sincerely yours,
ROBERT W. HODGSON,
Professor of Subtropical Horticulture.

The Y Pruner

is a tool of high quality that has proven its value in the short time it has been in use.

A written inquiry or phone call will not obligate you, and we suggest a free trial of this tool in order to better understand its merit.

Y PRUNER SALES
1712 Las Lunas
Pasadena, California
Terrace 9202

FANNO
Pruning Saws

are hand made and designed for fast cutting. Each saw after being filed and set is honed to a sharp cutting edge. This with the particular pitch of the teeth makes them superior to any saw on the market for fast cutting.

Write for descriptive folder telling of these excellent pruning tools.

Fanno Saw Works
A. A. Fanno, Pres.
1805 Magnolia Ave., Chico, Cal.

Pine Status

(*Continued from Page* 8)

brush burning and other human agencies, it may be granted that the lumbermen do more than their share in fire protection.

But from causes which the private owner cannot control and which require adequate State and Federal action for even a fighting chance at control, the story is different.

BEETLES WORST ENEMY

From 1930-1935 the western pine beetle destroyed some 5,500,000,000 ft. B. M. of Ponderosa and Jeffrey pine. Lumbering took, during the same period, 3,-079,221,000 ft. B. M. Yet the Government, during a period when billions of dollars were being wasted on many hair brained projects, could only spare a few thousands for beetle control work in California!

And now the even more deadly blister rust threatens destruction of all the sugar pine in the State and we are told that it is impossible to find $1,000,000 per year for four or five years to eradicate this disease.

Beetles kill much more mature timber than the forest fires and no forest owner dares plant or hold crops of young pines for use 100 years hence until there is some assurance that insects and disease can be controlled.

Why talk about huge planting programs which would cost $10.00 per acre when there is no money to save what you now have at a cost of $3.00 to $4.00 per acre? Wilderness areas are not respected by these natural destructive agencies. The State needs its forests for use, setting aside ample areas for parks and wilderness playgrounds, but seeking always the greatest good for the largest number of citizens.

California produces quality lumber. It needs lumber with which to build its cities and develop its fertile valleys. It needs the lumber for payrolls. The State uses much more lumber than it produces. Its manufacturers want permanent operations, and will do everything they can to forward a rational forestry policy.

PUBLIC HELP NEEDED

But most of them cannot commit themselves to a sustained yield policy until the public sees fit to make long time ownership of timber lands possible. This means adequate public support in controlling epidemics of insect infestation and of disease; in controlling forest fires; and in adjusting the timber tax so that it may be paid when the forest crop is marketed and not force uneconomic liquidation of lands being held for cutting in the future.

The lumber industry desires and will support any well balanced forestry program. But it wants the public to really understand the problems involved before engaging in crusades for ill considered legislation, the effects of which cannot be beneficial to the State in the long run.

Park School

(*Continued from Page* 16)

10:00-10:50 a.m. Lecture: "Horticulture and Its Relation to and Place in Public Parks." Mabel V. Socha, Board of Park Comm., L. A.
Round Table Discussion.
1:00-2:20 p.m. Lecture: "Physical Requirements." Ernest Braunton, Con. Hort., L. A.
Round Table Discussion.
2:30-3:50 p.m. Lectures: "Ways and Means."
1. "Open Market Supply." Roy Wilcox, Hort., Montebello.
2. "Growing Practices in Municipal Nurseries." Joseph Kladler, Prop. L. A. Park Dept.
Round Table Discussion.

WEDNESDAY, JUNE 15, 1938

9:00-9:50 a.m. Chairman: Emerson Winter, Supt. Parks, Alhambra.
Lecture: "Types of Parks in Municipalities." H. Lee Bancroft, Section Leader.
10:00-10:50 a.m. Lecture: "Trends of the Recreation Movement." George Hjelte, Supt. L. A. Dept. Recreation.
Round Table Discussion.
1:00-2:20 p.m. Lecture: "Organization for and Objectives of Recreation." Raymond Hoyt, Reg. Rec. Plan. N. P. S., S. F.
Round Table Discussion.
2:30-3:50 p.m. Lecture: "Activity Programs for the Park Department." Raymond Hoyt, Reg. Rec. Plan., N.P.S., S.F.
Round Table Discussion.

THURSDAY, JUNE 16, 1938

9:00-9:50 a.m. Chairman: F. N. Evans, Supt. Parks, Sacramento.
Lecture: "Park Planning." H. Lee Bancroft, Section Leader.
10:00-10:50 a.m. Lecture: "Is the Maintenance, Control and Care of Street Trees a Governmental Problem?" C. W. Koiner, City Manager, Pasadena.
Round Table Discussion.
1:00-2:20 p.m. Lecture: "Organization for Administration of Street Trees." Edgar Sandborn, City Forester, Oakland.
"Authority and Regulations." Harold Huls, City Attorney, Pasadena.
Round Table Discussion.
Lecture: "Types of Trees Most Suitable for Street Planting." (Varieties, location, soil types, etc.) H. Dana Bowers, State Lands. Eng., Sacramento.
Round Table Discussion.
2:30-3:50 p.m. Lecture: "General Care and Maintenance Problems." Ted Holderness, City Forester, Pasadena.
Round Table Discussion.

FRIDAY, JUNE 17, 1938

9:00-9:50 a.m. Chairman: J. T. Allen, Supt. of Parks, Glendale.
Lecture: "Public Relations, Park Education." H. Lee Bancroft, Section Leader.
Lecture: "Publicity Methods." Beatrice Arline Jones, Sec. & Pub. Dir. Comm. Center, Palo Alto.
10:00-10:50 a.m. Lecture: "Community Survey, Area Requirements, Methods of Acquisition." W. Hal Orion, Ch. P. & H. Calif. Dept. Ed.
Round Table Discussion.
1:00-2:20 p.m. Papers: "Charges and Fees."
1. "Recreation." Emerson Winter, Supt. Parks, Alhambra.
2. "Concessions and Rentals." William Nicholas, Supt. Parks, Pasadena; J. R. Wimmer, Ass't Forester, L. A. Co.
3. "Street Trees." Fred Roewekamp, Lands. Eng., Pk. Dept., L. A.
4. "Legal Aspects." Harold Huls, City Attorney, Pasadena.
2:30-3:50 p.m. Symposium:
Prof. M. H. Newmeyer, Dept. Sociology, U.S.C., Los Angeles.
John Anson Ford, County Supervisor, Los Angeles.
Gilbert L. Skutt, Supt. Parks, Los Angeles.
Mrs. John Sterns Thayer, Pres. L. A. Dist. Calif. Fed. Women's Clubs.
Emerson Winter, Supt. Parks, Alhambra.
William J. Fox, Chief Eng. Reg. Plan. Comm., Co. of Los Angeles.
Mrs. James K. Lytle, State Pres. Calif. Parent-Teachers Assn., Los Angeles.
James Pemberton, Adm. Ass't Forester & Fire Warden, L. A.
Summarizer: Section Leader H. Lee Bancroft.

National Conference

(*Continued from Page* 11)

Landscape Architect, St. Louis, Mo.

9:45—"Spraying Practices and Materials." C. R. Cleveland, Entomologist for Standard Oil Co.

10:15—Discussion.

10:30—"Growth of Shade Trees in Relation to Mycorhizae." Dr. Malcolm Wilson, Dept. Mycology, Royal Botanic Garden, Edinburgh.

or

"Trees and Flowers." A. P. Beilman, Missouri Botanical Garden, St. Louis, Mo.

11:00—"Shade Tree Problems in the Mid-West."

a. "Shade Tree Insects of the Mid-West."

b. "Shade Tree Diseases of the Mid-West." Dr. Rolland Lorenz, Division Forestry, Pathology, U. S. D. A., Washington, D. C.

11:45—Discussion.

FRIDAY AFTERNOON, SEPT. 2

2:00—Business meeting.

2:30—"Diagnosing Shade Tree Troubles." Chas. F. Irish, Cleveland, O.

3:00—"Basic Principles of Shade Tree Pruning." Norman Armstrong, Poughkeepsie, N. Y.

3:30—Discussion.

3:45—Adjournment.

Let's Do Something About It

By EDWARD H. SCANLON, Editor

The fields of Arboriculture, Forestry and Park Administration need action and plenty of it. It is coming slowly what with various schools, conferences, etc., but now with this journal there is presented an excellent opportunity for an interchange of ideas, to ask questions, give answers, and in general elevate your professions.

You will note on page ten, this issue, an effort to crystalize interest and knowledge of valuable trees. Take part in this contest so that we may present a really valuable "Tree Series" that will redound to the benefit of all, East and West.

Another valuable service this journal can render is the establishment of a question and answer department. Surely there is some problem that baffles you: design in a park; shrubs or trees for this or that use; where to buy certain materials or implements; forest problems. Send in your question and let us start a fine department with the next issue.

An essential of all publications is advertising. Advertisers must have returns, so again it is up to you readers, if you like and want this journal to continue, buy from those who advertise here. They are interested in your problems and will be pleased to help you work them out. Furthermore tell them about your magazine "Trees, Parks and Forests". "United we stand, divided we fall" was no wise crack. The people engaged in horticultural pursuits, regardless, have never been solidly molded, have never acted as a unit, we all know the result, so let us about face and take advantage of the start made . . . make "Trees, Parks and Forests" your "bible", send in questions, send pictures of interesting things, send short stories of problems you have faced and licked so that others may benefit.

A further essential to this drive for concerted action requires filling in the blank below. Do it now. Let's not wait.

$1.00 *Fill Out Your Subscription Order NOW* **$1.00**

Western Trees, Parks & Forests,
129 Santa Monica Boulevard,
Santa Monica, California.

Please send me *Western Trees, Parks and Forests* for one year. Enclosed find my check.....or money order.....* for $1.00 drawn to your favor.

Name.....

Street.....

City and State.....

*PLEASE CHECK

S-A43422

Western Trees, Parks and Forests is a Quarterly Journal published at Santa Monica, California, by the Parktree Publishing Company, and is devoted to the technical and business administration of Trees (Street and Ornamental); Parks (Municipal, State and National); and Forests (State, National and private). Editorial and Business Address, 129 Santa Monica Boulevard, Santa Monica, California. Tel. Santa Monica 24827. Subscription by mail, $1 the year. Advertising rates upon inquiry. Unsolicited manuscripts must be accompanied by postage return.

Sec. 562, P. L. & R.
U. S. POSTAGE
PAID
Santa Monica, Calif.
Permit No. 158

Consulting Staff

Dr. C. J. Humphrey, Pathology, graduate in fores from the University of Nebraska, and in plant pathol from Cornell University and the University of Wiscons In charge of timber decay investigations and tree disea for fifteen years at the Forest Products Laboratory, Ma son, Wisconsin. Chief pathologist, Philippine Islands, eight years.

George K. Freeman, general consultant and president the concern bearing his name, which is the oldest est lished (1911) Tree Preservation company in the West.

Dr. H. E. Burke, entomologist, received training Washington State College and Stanford University. Thir two years with United States Department of Agricultu including several years in charge of Shade Tree Ins Laboratory at Stanford.

Northern Division of Our Operators

George K. Freeman & Co., established 27 years ago in California, is the oldest institution in the West exclusively devoted to the care and preservation of trees. Since 1911 more than one million trees have been cared for, trees valued and loved by the small home owner as well as trees of priceless value upon the largest estates and institutions in the West. *Our smallest job in* 1937 *was* $1.75—*our largest job* $16,500.

The personnel of this company brings a rich experience with tree conditions nation wide.

To better serve the West we are proud to announce the founding of a Research Department headed by H. E. Burke, Ph.D., in Entomology, and C. J. Humphrey, Ph.D., in Plant Pathology. This department will cooperate with owners of trees, Landscape Architects, Estate Su perintendents, State, County and Municipal Executives in planting an growing better and healthier trees.

The scientific surveys and periodic programs for tree care, by ou staff, have aalready saved for our clients priceless trees and man dollars.

Authoritative reports are made at moderate cost while preliminar plans are suggested at no obligation.

Fifteen hundred feet of color film depicting interesting activitie in the care of trees is available without cost to groups interested i the preservation of trees.

George K. Freeman & Co. ESTABLISHED 1911

CONSULTANTS IN THE CARE OF TREES

HOME OFFICE MAILING ADDRESS: P. O. BOX 607, SANTA BARBARA, CALIF.

PASADENA LOS ANGELES SANTA BARBARA

LICENSED OPERATORS

: *SOIL*, ANALYSIS, PLANT FOODS, SUB-IRRIGATION, DRAINAGE, ROOT AERATION : *PRUNING*, SHRUBS, TREES, TOPPING, REMOVALS : : *SPECIMEN TREES*, MOVED, PLANTED : *CULTURAL ADVICE* : *INSECT CONTROL*, POWER SPRAYING : *TREE SURGERY* : : *LINE CLEARING* : *MUNICIPAL TREE PROBLEMS*